

# **ACTIVE FUEL CAP SENSOR USING MAGNETIC IMPULSE DETECTION**

## **Abstract of Disclosure**

An apparatus and circuit for monitoring the closed position of a fuel cap relative to a tank connection pipe . The fuel cap has a ratchet torque limiter for controlling the tightening of the fuel cap to the tank connection pipe. A magnet is connected to the fuel cap and a magnetic switch, such as a reed switch, is connected to the tank connection pipe or proximal thereto. The movement of the magnet relative to the magnetic switch, indicating a locked fuel cap condition, is sensed by an abrupt change in magnetic field strength of the magnet. When releasing members snap over the cams therein, a current pulse is induced in a pickup coil . This current pulse is sensed and a logic level high voltage is produced corresponding to a tightened fuel cap condition. A dashboard lamp is then extinguished indicated that the fuel cap is safely and securely tightened.